UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,174	09/18/2003	Mallikarjun Chadalapaka	200312982-1	8720

22879   7590   07/22/2010
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
3404 E. Harmony Road
Mail Stop 35
FORT COLLINS, CO 80528

EXAMINER
DAILEY, THOMAS J

ART UNIT	PAPER NUMBER
2452	

NOTIFICATION DATE	DELIVERY MODE
07/22/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM
ipa.mail@hp.com
laura.m.clark@hp.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/666,174
Filing Date: September 18, 2003
Appellant(s): CHADALAPAKA, MALLIKARJUN

Dan C. Hu
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 7, 2010 appealing from the Office action

mailed December 9, 2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

J. WENDT ET AL, Data Integrity PowerPoint presentation, entitled "ISCSI-R Data

Integrity," slides 1-36, Version 1d, Oct. 4, 2002

SATRAN, JULIAN ET AL, Internet Draft, entitled "iSCSI," Sept. 5, 2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

   obviousness rejections set forth in this Office action:

   (a) A patent may not be obtained though the invention is not identically disclosed or described as set
   forth in section 102 of this title, if the differences between the subject matter sought to be patented and
   the prior art are such that the subject matter as a whole would have been obvious at the time the
   invention was made to a person having ordinary skill in the art to which said subject matter pertains.
   Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over J.

   Wendt et al. (Data Integrity PowerPoint presentation entitled "ISCSI-R Data

   Integrity," slides 1-36, Version 1d, Oct. 4, 2002), hereafter "Wendt," in view of

Satran, Julian et al. (Internet Draft entitled "iSCSI," Sept. 5, 2002), hereafter

"Satran."

3.   As to claim 1, Wendt discloses an apparatus for acknowledging a data transfer,

comprising:

a processor configured to transfer data according to a plurality of protocols of

a protocol stack (Slide 3, Figure labeled "iSCSI-R" "Initiator") comprising:

a first protocol layer to initiate a request for a data transfer (Slide 3, labeled

"iSCSI-R" "Initiator" with "iSCSI" reading on the first protocol layer;);

and a second protocol layer (Slide 3, Figure labeled "iSCSI-R" "Initiator"

"iSER" reading on "a second protocol layer") to:

receive the request for the data transfer from the first protocol layer (Slide

3, Figure labeled "iSCSI-R" "Initiator"'; iSCSI commands are encapsulated (i.e.

"received" from one protocol layer to another) to include iSER related data, as in

Slide 13); and

send a performance request corresponding to the request for data transfer

to a third protocol layer (Slide 3, Figure labeled "iSCSI-R" "Initiator"' "RDMA"

reads on "third protocol layer"; Slide 4, section 3, CRC's (i.e. performance

requests) are carried in the RDMA layer of the messages, see also Slide 12).

But, Wendt does not disclose determining with the request for the data

transfer contains a request for acknowledgment of completion of the data transfer

and if the request for data transfer does contain a request for acknowledgement of the completion of the data transfer, setting a variable in memory to wait for an event to correspond to the completion of the request for data transfer and sending an acknowledgement to the first protocol upon the occurrence of the event.

However, Satran discloses the use of iSCSI over other protocol layers (page 23-24, section 2.2.1 Layers and Sessions) including requests for data transfers using the iSCSI protocol which contain a request for acknowledgment of completion of the data transfer (page 156, section 9.7.2, "A (Acknowledge) bit", first paragraph, "For sessions with...") and if the request for data transfer does contain a request for acknowledgement of the completion of the data transfer, setting a variable in memory to wait for an event to correspond to the completion of the request for data transfer and sending an acknowledgement to the first protocol upon the occurrence of the event (page 156, section 9.7.2, "A (Acknowledge) bit", first paragraph, "For sessions with..."; "A bit" reads on variable set in memory).

That is, since the combination of Satran with Wendt would yield an explicit request for acknowledgment with any data request via an A-bit at the first layer, it is essential that at the lower layers (i.e. "the second layer" or iSER layer as disclosed in Wendt (slide 3)) determine the contents of the superior layers, which would include reading of the A-bit.

Therefore it would have been obvious at the time of the applicant's invention to combine the teachings of Wendt and Satran in order to increase reliability in the Wendt's system through the use of acknowledgments and A bits as disclosed in Satran.

4. As to claims 8, 16, and 22-23, they are rejected by a similar rationale set forth in claim 1's rejection.

5. As to claims 2 and 17, Wendt discloses the first protocol is an internet small computer systems interface ("iSCSI") protocol (Slide 3, Figure labeled "iSCSI-R" "Initiator" "iSCSI").

6. As to claims 3 and 13, Wendt discloses the second protocol is an internet small computer systems interface extensions for remote direct memory access ("iSER") protocol (Slide 3, Figure labeled "iSCSI-R" "Initiator" "iSER").

7. As to claims 4 and 14, Satran discloses the request for the data transfer comprises an attribute that indicates the request for acknowledgement of completion of the data transfer (page 156, section 9.7.2, "A (Acknowledge) bit", first paragraph, "For sessions with…"; "A bit" reads on variable set in memory).

8. As to claim 5, Satran discloses a value of an error recovery level is notified to the second protocol from the first protocol (page 222, Section "11.20 ErrorRecoveryLevel).

9. As to claims 6 and 18, Wendt discloses the third protocol is a remote direct memory access ("RDMA") protocol (Slide 3, Figure labeled "iSCSI-R" "Initiator" "RDMA").

10. As to claims 7 and 19, Wendt discloses the event relates to a zero length remote direct memory access ("RDMA") read completion (Slide 26).

11. As to claim 9, Wendt discloses receiving the performance request that corresponds to the data exchange request (Slide 3, Figure labeled "iSCSI-R" "Initiator"' "RDMA" reads on "third protocol layer"; Slide 4, section 3, CRC's (i.e. performance requests) are carried in the RDMA layer of the messages, see also Slide 12).

12. As to claim 10, Wendt discloses a remote direct memory access network interface card ("RNIC") that is used by the protocol stack to exchange the message between the at least one of the plurality of systems and the at least one input/output device via the network (Slide 34, RNIC labels).

13. As to claims 11 and 20, Wendt discloses the message is a remote direct memory access ("RDMA") write message (Slide 21).

14. As to claim 12, Wendt discloses the message is a zero length remote direct memory access ("RDMA") read message (Slide 26).

15. As to claim 15, Wendt discloses the process operates according to a small computer systems interface protocol ("SCSI") (Slide 1).

16. As to claim 21, Satran discloses establishing an error recovery level by the first protocol to indicate the error recovery level in the request for acknowledgement of completion of the data transfer (page 222, Section "11.20 ErrorRecoveryLevel).

17. As to claims 24 and 25, Wendt discloses the processor and first, second, and third protocol layers are part of an initiator node to perform the data transfer with a target node (Slide 3, "Initiator label").

(10) Response to Argument

The examiner summarizes the various points raised by the appellant and addresses replies individually.

(1) The appellant argues with respect to claims 1 and 8, that the combination of Wendt and Satran fail to disclose a request for data transfer (initiated by a fist protocol layer) contains a request for acknowledgment of completion of the data transfer. Specifically, the appellant contends Satran discloses in § 9.7.2, a target setting the acknowledge bit of the SCSI Data-in PDU to a value "1" to indicate that the target requests a positive acknowledgement from the initiator for data received. The appellant then concludes, a target of a data transfer operation setting an acknowledgement in a data payload PDU (Data-in PDU) is completely different from a first protocol layer initiating a request for a data transfer, where such request for data transfer contains a request for acknowledgement of completion of data transfer, as recited in claim 1.

In reply to **(1),** Satran discloses an acknowledgment bit (i.e. an A bit) at the first protocol layer of the Wendt reference (the iSCSI layer, Slide 3), in the same manner that is taught by the instant application (compare, applicant's specification page 15, [0033] (where iSCSI is also the application/first layer protocol) with the Satran disclosure of page 156, section 9.7.2, "A (Acknowledge) bit", first paragraph, "For sessions with…"); Satran is clearly talking about iSCSI, see for example, the Title.

That is, the data payload PDU of the target referenced by the appellant equates to the first protocol layer of claim, thus any manipulation of that data would occur via the iSCSI protocol, including setting the acknowledgment bit.

Further, Satran's Data-In DPU is part of a read request (i.e. "a request for
data transfer", see pages 154-155, specifically, the last line of 154, "The SCSI
Data-In for READ operations has the following format..."). Moreover, since
Satran's target is asking for acknowledgment for data by another entity, clearly it
is involved in a data transfer.

Lastly, since the combination of Satran with Wendt would yield an explicit
request for acknowledgment with any data request via an A-bit at the first layer, it
is essential that at the lower layers (i.e. "the second layer" or iSER layer as
disclosed in Wendt (slide 3)) determine the contents of the superior layers, which
would include reading of the A-bit.

(2) The appellant contends there is no hint that any request sent from the
iSCSI layer to the iSER layer of Wendt contains any request for
acknowledgement for completion of the data transfer. The appellant asserts that
Satran teaches a target setting an acknowledgment in a data payload PDU not
into any request sent from the iSCSI layer to the iSER layer in Wendt, and thus
would have led a person of ordinary skill in the art to incorporate an
acknowledgment bit into a data payload PDU by the target of a data transfer.

In reply to (2), Satran discloses setting an acknowledgement bit at the iSCSI
layer as elaborated on above and Wendt explicitly discloses interactions between
the iSER and iSCSI layer, see (Slides 3 and 12-13). That is, as those of ordinary

skill are well aware of protocol interactions and the principles of data abstraction,
it is essential that if the iSCSI layer disclosed in Wendt contains the A-bit of
Satran's iSCSI layer, the lower layers (i.e. "the second layer" or iSER layer as
disclosed in Wendt (slide 3)) determine the contents of the superior layers, which
would include reading of the A-bit.

(3) The appellant argues with respect to claims 1 and 8, that the combination
of Wendt and Satran would not have been obvious to one of ordinary skill in the
art at the time of the invention. Specifically, the appellant contends the examiner
has basically argued that no reason needs to be identified when combining the
teachings of Wendt and Satran when citing KSR.

In reply to **(3),** the examiner stated *KSR International Co. v. Teleflex Inc.*
forecloses the argument that a specific teaching, suggestion, or motivation is
required to support a finding of obviousness. See the Board decision Ex Parte
Smith, --, slip op. at 20, (Bd. Pat. App. & Interf. June 25, 2007) (citing KSR, 82
USPQ2d at 1396). That is, it was never the examiner's position that no
motivation is necessary, but rather a specific (i.e. an explicit motivation as recited
in a prior art reference) is not required.

Regardless, the examiner has clearly provided motivation for combining the
teachings of Wendt and Satran as explained in the Grounds of Rejections
section, but will nonetheless repeat it here.

In this case, the examiner has relied upon the knowledge generally available to one of ordinary skill in the art, and the teachings would have been combined so as to produce a system to increase reliability in the Wendt's system via the A bits disclosed in Satran. That is, one of ordinary skill would have recognized increasing the reliability of the system would have a positive impact on the system overall.

(4) The appellant argues with respect to claims 12 and 19, that the combination of Wendt and Satran fail to teach the message transmitted by a third protocol layer to at least one of a plurality of systems and at least one input/output device is a zero length RMDA read message.

In reply to **(4),** Wendt discloses the message is a zero length remote direct memory access ("RDMA") read message (Slide 26). That is, a zero length RDMA read message is a function of RDMA (i.e. not a novel function of the applicant, see its use in [0032] of the specification), and as Wendt discloses RDMA reads, it discloses zero length reads.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Thomas J. Dailey

/T. J. D./

Examiner, Art Unit 2452

Conferees:

/DOHM CHANKONG/
Primary Examiner, Art Unit 2452

/THU NGUYEN/
Supervisory Patent Examiner, Art Unit 2452